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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,583	12/31/2003	Daryl Carvis Cromer	RPS920030220US1(4036)	2709

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IBM CORPORATION  
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EXAMINER
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WILLIAMS, KENT L

ART UNIT	PAPER NUMBER
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2112

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/21/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/749,583

Applicant(s)

CROMER ET AL.

Examiner

Kent L. Williams

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 31 December 2003.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because within Figure 5B, under Block 508, "length" and "protocol" are misspelled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: Paragraph 21, line 6 should be corrected as "...include a setting to prevent..."

Appropriate correction is required.

3. The use of the trademark "Magic Packet™" has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Claim Objections***

4. Claims 24 and 25 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Both claims are the first point of the independent claim (20), specifying that *the packet parsing logic is to identify the partition identification* (that will be an extension of a "wake-on-lan" (WOL) packet).

5. Claims 8, 9, 10, 11 and 24 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 1, 3, 6, 7 and 25, respectively. (Please note their duplication per the following 35 U.S.C. 101 rejections.) When two claims in an

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application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 101***

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 8-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A "service," per the preamble, does not fall into any of the statutory categories of a process, machine, manufacture, composition of matter or an improvement thereof.

8. Claims 15-19 and 35-37 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed towards programs represented as programs per se or nonstatutory signals. Please see the applicant's disclosure, paragraphs 63 and 64.

9. Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed subject matter is nonfunctional descriptive material.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Secure Authentication for Remote Client Management (IBM TDB No. NNRD41993), 1 March 1999, referred to as "NNRD" hereinafter.

Claims 1, 2, 5, 6, 8, 10, 13, 15, 17 and 19 claim a system and method for selecting a bootable image, constructing a "wake-on-lan" (WOL) packet with partition identification (indicating a bootable image), transferring said packet, and a database for client capabilities, which is taught by NNRD as "The firmware allows the server to send to the client a [WOL] packet which tells the client to wake up and boot off the network. (Lines 29-31)." "Using this method a bootable image can be sent to the client to execute. This bootable image can contain programs that update the system BIOS, start the install of an operating system, and/or run diagnostics. (Lines 35-38)." However, NNRD further discloses "[More] examples include updating firmware, **loading** and installing a new operating system, running diagnostics, etc. (Lines 5-7)." The Examiner interprets "loading and installing a *new* operating system" to be loading an operating system other than the primary operating system, thereby enabling the choice of loading two (or more) operating systems by use of a WOL packet. It is inherent that the choice of the operating system on the client would have to be coded within the transferred

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WOL packet. A database of client's "wake-on-lane functionality" is taught by NNRD as "The public key is sent to the server system management database. (Lines 47-48)."

Claims 3, 4, 9, 16, 33 and 37 claim selecting a bootable image on a secured partition, which is typically only available from the pre-execution environment (PXE). NNRD teaches that all of the operations that can be performed via the WOL functionality are accomplished within the PXE. Therefore, it is inherent that a WOL packet is capable of loading an operating system within a secured partition. Please see "Hidden Disk Areas: HPA and DCO," International Journal of Digital Evidence, Fall 2006, Volume 5, Issue 1, and please see MPEP §2131.01.

Claims 7 and 11 claim including post-boot instructions (to be run after the operating system load) into the WOL packet, which are taught by NNRD as "Today's managed clients have the ability to [...] [run] diagnostics. (Lines 1-7)." It is inherent that diagnostics would have to be run post-boot.

Claims 12 and 18 claim broadcasting a WOL packet for multiple clients to receive, which is well known in the art, for use with any packet, using a User Datagram Protocol.

Claim 14 recites the use of Ethernet™, which is also well known in the art and an industry standard for networks. Ethernet™ use is inherent in any TCP/IP application (or method).

Claims 20, 21, 24, 25, 27, 30, 31, 34 and 35 claim client-side packet parser for the WOL and OSPID packets, storage means for storing the boot operations within the WOL packet, scanning said storage location and subsequently following said boot

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operations. Although NNRD does not recite the exact steps to accomplish how the PXE of the client "...allows the server to send to the client a special packet which tells the client to wake up and [...] start ... an operating system, and/or run diagnostics. (Lines 25-38)," it is inherent that the steps of claims 20, 27 and 35 are how to accomplish such.

Claims 22, 23, 28, 29 and 36 claim authenticating the WOL packet, or authenticating the WOL packet using a private key. "Each system has a unique serial and machine number. This is used by the system at deployment or first time setup to create unique set of public and private keys. The private key is stored within the system hardware DES engine (not readable by any operating system or application). The public key is sent to the server system management database. (Lines 43-48)." The DES scheme uses the public key for encryption, and the private key for decryption. Therefore, the client would authenticate the WOL packets from the server using its private key.

Claims 26 and 32 claim storing the partition identification in non-volatile memory, which is taught by NNRD as "Files are then transferred using Trivial File Transfer Protocol (TFTP) which is [an] industry standard protocol. (Lines 33-34)." TFTP is only capable of storing transferred data into non-volatile memory, and more namely the hard disk.

12. Claims 1-18, 20-22, 24-28 and 30-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Schmidt (U.S. Patent No. 5,826,015), provided by the applicant.

Claims 1-6, 8-10, 13, 15, 16, 17, 19, 33 and 37 claim a system and method for selecting a bootable image, constructing a "wake-on-lan" (WOL) packet with partition



identification (indicating a bootable image), transferring said packet, and a database for client capabilities, which is taught by Schmidt as "The instructions comprise application software which access the data to generate and transmit wake-up packets to the desktop computers 14 over the network. (Column 13, lines 24-27)." The following simple summary teaches the entire instant application: "the present invention enables remote programming of sensitive system resources, like a BIOS, without exposing the resources to other security risks. (Column 3, lines 28-30)." The Examiner finds that the ability to wakeup a computer and be able to reprogram any of the system resources, such as the BIOS that also enables reprogramming the Complementary metal-oxide-semiconductor (CMOS), is in itself enabling to select a bootable image from any partition within the system, including secure (PARTIES) partitions, as the CMOS holds said information for BIOS to execute. Please also see column 16, lines 49-53.

Claims 7, 11, 12, 14 and 18 claim including post-boot instructions within the WOL packet, broadcasting WOL packets, and the use of Ethernet™. "For the purpose of illustrating the principals of the invention, the LAN 24 is configured as a bus such as Ethernet™. Any other LAN topology or network type (e.g., WANs, MANs) can similarly illustrate the principals of the invention. (Column 4, lines 30-34)." It is inherent that Ethernet™ topology has a packet broadcast functionality known as UDP, which is exemplified within Figures 3 and 4. Post-boot instruction communication and execution is taught as "From the workstation 12, the network administrator transmits instructions to the desktop computer 14 that are executed by the operating system of the desktop computer 14. (Column 16, lines 62-65)."

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Claims 20, 21, 24, 25, 26, 27, 30, 31, 32, 34 and 35 claim client-side packet parser for the WOL and OSPID packets, storage means for storing the boot operations within the WOL packet, scanning said storage location and subsequently following said boot operations. "If instead the network interface **64** initiated the wake-up [...] workstation **12** then transfers new BIOS instructions and data to the desktop computer **14** over the LAN **24** along with utility software necessary to accomplish the reprogramming. The processor **78** copies the new BIOS instructions [**capable of selecting an operating system**] and data to main memory **80** (or a disk **82** [**non-volatile memory**]). The utility software instructs the processor **78** to modify the BIOS instructions and data in the BIOS ROM **74** as required to complete the new BIOS. (Columns 16-17, lines 62-67 and 1-11)."

Claims 22, 28 and 36 claim authenticating the WOL packet, where the Examiner finds a password to be a form of authentication. "Fig. 4 shows the data section of a secure wake-up packet **42** for remotely waking up a station such as the desktop computer **14**. The secure wake-up packet **42** includes ... a password sequence **50**. [...] The password sequence **50** follows the MAC address sequence **48** and has a predetermined relationship with a password required to wake up the desktop computer **14**. (Column 6, lines 38-67)."

### ***Double Patenting***

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1-36 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-35 of copending Application No. 10/749,584. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matter of both applications are drawn to modified "wake-on-lan" packets for executing alternate code on the destination system (inclusive of choosing an alternative operating system). The following is a list of the claim correspondence of the instant application to the copending application: Claims 1, 8, 13, 15, 20, 27 to claims 1, 2, 9, 10, 12-14, 20, 23 (Modified wake-on-lan packets with executable code); Claims 3, 4, 9, 16, 22, 23, 28, 29,

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33, 34 to claims 3, 4, 5, 14, 16, 31, 33 (Authenticating the wake-on-lan packet and loading data from a secured partition).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claims 1-37 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-20 of copending Application No. 10/753,518. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matter of both applications is drawn to modify wake-on-lan packets (AKA "power-on packet" or Magic Packet™) to select a boot image from a bootable partition. The following is a list of claim correspondence from the instant application to the copending application:

Claims 1, 2, 5, 21, 8, 13, 15, 20, 27 and 35 to claims 1-20.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

16. Claims 1-37 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-18 of U.S. Patent No. 6,526,507.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matter of the instant application and the U.S. patent are both drawn to authenticating wake-on-lan packets using public and private keys. The following is a list of claim correspondence of the instant application to the U.S. Patent: Claims 1, 8, 13, 14, 15, 20, 22-23, 27, 28-29, 35, 36 to claims 1-18.

17. Claims 1-37 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of U.S. Patent No. 6,421,782.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed subject matter of the instant application and the U.S. Patent are both drawn to wake-on-lan packets and non-volatile memory use for WOL packet storage. Claims 1, 8, 13, 15, 20, 27 and 35 of the instant application are correlated to claims 1-4 of the U.S. Patent.

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 6,334,149 discloses setting protocol network protocol choice to load a generic operating system via a network using wake-on-lan packets. U.S. Patent No. 6,976,058 discloses remote management with operating system transfer for boot options using wake-on-lan packets. U.S. Patent No. 6,658,563 discloses a virtual file system boot option with a boot bit in the (non-volatile memory) Master Boot Record (MBR) to choose, using wake-on-lan packets. U.S. Patent No. 6,317,826 discloses DOS remote load and run means for modifying the operating system.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kent L. Williams whose telephone number is 571-272-

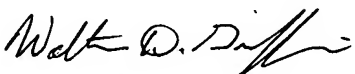
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1376. The examiner can normally be reached on Mon-Fri 7:30-5:00 with Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kent Williams  
12/14/2006

  
WALTER D. GRIFFIN  
SUPERVISORY PATENT EXAMINER